

REMARKS/ARGUMENTS

In the Office Action mailed April 15, 2011 (hereinafter, "Office Action"), claims 1-6, 8-14, 17-26, 28-34, 37-46 and 49-56 were rejected under 35 U.S.C. § 103(a). By this paper, claims 1, 18, 21, 38, and 41 have been amended. Claims 14, 34, and 46 have been canceled.

Applicant respectfully responds to the Office Action.

I. Claims 1-6, 8-10, 17-26, 28-30, 37-43 and 49-56 Rejected Under 35 U.S.C. § 103(a)

Claims 1-6, 8-10, 17-26, 28-30, 37-43 and 49-56 stand rejected under 35 U.S.C. § 103(a) based on U.S. Patent Application Publication No. 2002/0075572 to Boreczky et al. (hereinafter, "Boreczky") in view of U.S. Patent No. 6,711,741 to Yeo (hereinafter, "Yeo") and further in view of U.S. Patent No. 7,366,241 to Matsui et al. (hereinafter, "Matsui"). Applicant respectfully requests reconsideration in view of the above claim amendments and the following remarks.

The factual inquiries that are relevant in the determination of obviousness are determining the scope and contents of the prior art, ascertaining the differences between the prior art and the claims in issue, resolving the level of ordinary skill in the art, and evaluating evidence of secondary consideration. KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007) (citing Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 17-18 (1966)). As the Board of Patent Appeals and Interferences has confirmed, "obviousness requires a suggestion of all limitations in a claim." In re Wada and Murphy, Appeal 2007-3733 (citing CFMT, Inc. v. Yieldup Intern. Corp., 349 F.3d 1333, 1342 (Fed. Cir. 2003)).

Claim 1 has been amended in part to recite, "in response to the first user request, obtaining first instructions for displaying the first navigation video strip, wherein the first instructions do not include the first plurality of video frames." Support for the subject matter being added by amendment is found in at least paragraphs [0049] and [0068]-[0069] of Applicant's specification.

The combination of Boreczky, Yeo and Matsui does not teach or suggest that "obtaining first instructions for displaying the first navigation video strip, wherein the first instructions do not include the first plurality of video frames" as recited in amended claim 1.

The Office Action cites Boreczky as teaching that instructions from the server contain “the amount of the video to be indexed . . . and video key frames . . . along with criteria (number of frames, amount of data, amount of time) to be displayed” (Office Action, page 3, emphasis added.) The Boreczky reference itself teaches that “instructions,” as interpreted by the Office Action, include “keyframes.” (Boreczky, paragraphs [0026] and [0030].) Thus, Boreczky directly teaches away from the claimed invention by instructing a skilled artisan to send video frames along with instructions. Conversely, claim 1 of the present invention states that the first instructions do not include any video frames.

Yeo and Matsui do not make up for the deficiency of Boreczky on this matter. Yeo is similar to Boreczky in that it teaches that temporal snapshots (e.g. single frames) are sent to a display application along with video source frames. (See Yeo, col. 3, lines 25-35; col 4, lines 13-26.) Nowhere in Yeo does it teach that any independent instructions are sent to the display device, let alone instructions devoid of video frames. The Matsui reference is silent altogether on this matter. Matsui deals exclusively with the transmission of video frames and teaches how to obtain a high error-resistance transmission and high video quality.

Alone, or in combination, Boreczky, Yeo and Matsui do not teach or suggest “obtaining first instructions for displaying the first navigation video strip, wherein the first instructions do not include the first plurality of video frames” (emphasis added).

In addition, claim 1 has been amended to include, “determining whether each obtained video frame of the first plurality of video frames is an intra-coded frame or a predictive-coded frame, and for each obtained video frame that is a predictive-coded frame, discarding the obtained video frame and obtaining a subsequent intra-coded frame.” Support for the subject matter being added by amendment is found in at least paragraph [0052] of Applicant’s specification.

The Office Action, Boreczky and Yeo are all silent as to the handling of intra and predictive video frames (hereafter called I-frames and P-frames). The Matsui reference does disclose the handling I and P-frames. However, Matsui discusses I and P-frames in relation to video formats, error handling and video quality. (See Matsui, Abstract; cols. 1-4.) Matsui does

not discuss handling I and P-frames in relation to a navigational video strip. Even if the Matsui reference was considered to be on point, it teaches away from the claimed invention because it teaches that P-frames (in the video source itself, not a navigational video strip) are to be decoded with preceding I and P-frames. (Id., col 1, lines 35-43.) Conversely, amended claim 1 teaches that subsequent I-frames are to be used. Thus, Matsui, Boreczky, or Yeo, alone or in combination, do not teach “determining whether each obtained video frame of the first plurality of video frames is an intra-coded frame or a predictive-coded frame, and for each obtained video frame that is a predictive-coded frame, discarding the obtained video frame and obtaining a subsequent intra-coded frame.”

Furthermore, the Office Action indicates that,

obtaining the first plurality of video frames by requesting the specific video frames from the server by sending [from the client system] separate play request[s] for the video frames in accordance with a video streaming protocol, wherein a normal play time of each play request begins at T_i and ends at $T_i + d$, wherein T_i is a timestamp of an i^{th} video frame, and wherein d does not exceed one frame duration . . .

is taught by a combination of Boreczky and Yeo. (Office Action, page 4.) However, such a combination would render Boreczky unsatisfactory for its intended purpose. (See M.P.E.P § 2143.01 (“The proposed modification cannot render the prior art unsatisfactory for its intended purpose.”) (Capitalization altered).)

Boreczky expressly teaches:

The present inventors have realized that playback devices can be made more user friendly by providing “snapshots” to reference positions within a data stream being played, even if indexed snapshots are not provided in the original data stream. . . .

* * * *

In streaming video applications, videos will often be indexed on the server-side and the index points together with their associated images will be available to the client. However, as is the case with the majority of the video content available on the Internet, no server-side index exists. The present invention creates an index on-the-fly on the client side. For creating such an index, the client opens one or

more streaming video connections in addition to a main connection used for playing back the video.

* * * *

. . . . The server device 300 begins streaming the requested video 315 to the device 320.

To perform video indexing at points after the current playback position of the video stream 315, the device 320 opens a second connection 310 for transmission of look-ahead data of the video stream 315. Device 320 receives the look-ahead data 315, which is summarized, and keyframes are selected and utilized by the device 320 for making a display according to the present invention, having index video at points forward and behind a current playback position of the video stream 315. . . .

Boreczky, paragraphs [0009], [0022], and [0025]-[0026] (emphasis added).

In contrast to Boreczky, Yeo discloses:

RAPS [Random Access Playback System] first generates temporal snapshots of the source video frames and then maintains both the temporal snapshots and the source video frames in its server. After the server transmits the temporal snapshots to a client in RAPS, the client presents these temporal snapshots as individual images to a user. Moreover, RAPS allows the user to browse through and randomly select from these images.

* * * *

. . . . Assuming the video source frames are those depicted in FIG. 4, TSG 300 generates shots, such as shots 402 and 404, and their corresponding temporal snapshots, such as temporal snapshots 406 and 408 from consecutive video frames 400. A shot is defined to be a sequence of images captured between a “record” and “stop” camera operation, or in other words, a segment of video source frames 106. A temporal snapshot, on the other hand, marks the beginning of a shot. One method of tracking these video frames and temporal snapshots is placing unique time stamps on them. For instance, temporal snapshot 406 is a video frame at time=10.

Yeo, col. 2, lines 59-66; col. 3, lines 21-32. The foregoing is illustrated in Figure 4 of the Yeo, which is provided below:

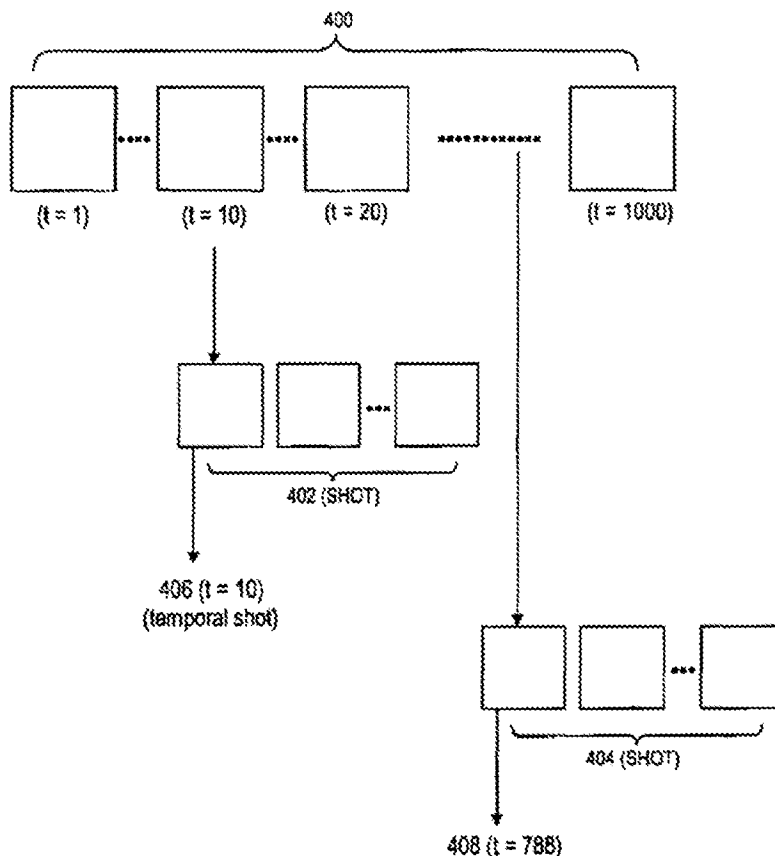


FIG. 4

The Office Action attempts to combine Boreczky and Yeo by suggesting that Boreczky could be modified by uploading a single frame, a temporal shot, of Yeo to achieve the claimed subject matter. (See Office Action, page 4.) However, such a modification of Boreczky would render this reference unsatisfactory for its intended purpose. Boreczky obtains secondary video streams to analyze those streams in order to identify “keyframes” to enable indexing “on-the-fly on the client side” of the video stream. (Boreczky, paragraphs [0009], [0022], and [0025]-[0026].) Obtaining a single frame, a temporal snapshot, from a server (as described in Yeo) would not enable the analysis necessary to index or identify keyframes, *i.e.*, to determine whether those frames that are sufficiently different from adjacent frames to comprise

“keyframes.” (Boreczky, *e.g.*, paragraph [0023].) Thus, identification of “shots” and “temporal snapshots” on a server and transmission of those temporal snapshots to client, as provided for in Yeo, would not enable client-side indexing as set forth in Boreczky. (See Yeo, *e.g.*, col. 3, line 8 - col. 4, lines 12.) Thus, the proposed modification of Boreczky would render this reference unsatisfactory for its intended purpose of client-side indexing of video streams on-the-fly. (See M.P.E.P § 2143.01.) Accordingly, Applicant respectfully requests withdrawal of this rejection.

Additionally, Applicant also notes that claim 1 recites “obtaining the first plurality of video frames by requesting the specific video frames from the server by sending from the client system separate play requests for the video frames in accordance with a video streaming protocol, wherein a normal play time of each play request begins at T_i and ends at $T_i + d$, wherein T_i is a timestamp of an i^{th} video frame, and wherein d does not exceed one frame duration” (emphasis added). As further recited in claim 1, “displaying the first navigation video strip comprises retrieving the first plurality of video frames from the server and displaying the corresponding thumbnail images.” As a result, the navigation strip of the claimed subject matter includes displaying video obtained by separate play requests with a beginning (T_i) and end time ($T_i + d$) that “does not exceed one frame [in] duration.” The Office Action acknowledges that Boreczky does not teach this subject matter and relies on Yeo to do so. (See Office Action, page 4.) Applicant, however, respectfully submits that this subject matter is not taught or suggested by Yeo.

Yeo explains:

After the server transmits the temporal snapshots to a client in RAPS, the client presents these temporal snapshots as individual images to a user. Moreover, RAPS allows the user to browse through and randomly select from these images. When the user chooses an image, RAPS plays back the selected image's corresponding segment of the source video frames independent from other downloading or playing back of the source video frames. As a result, the user can preview segments of the source video frames before depleting precious network bandwidths to download the entire source video frames. At the same time, the server needs only to maintain one copy of the source video frames.

Yeo, col. 2, line 62 - col. 3, line 7 (emphasis added).

Thus, Yeo involves transmitting the temporal snapshots to the client. If a user selects one of the temporal snapshots, the corresponding *segment of video* is sent from the server to be played at the client. Figure 4 of Yeo shows that such a segment (or shot 402, 404) involves multiple frames and thus does not involve a play request “not exceed[ing] one frame [in] duration,” as recited in claim 1.

Further, there is no indication that the temporal shots of Yeo are requested at a client device using “separate play requests” with a beginning and end time that “does not exceed one frame [in] duration.” Yeo merely states that temporal snapshots are transmitted to the client device, and further explains that “server 100 responds to client 102’s selection of image 608 at time=30 by sending the corresponding segment of source video frames 106 beginning at time=30 to client 102,” *i.e.*, more than one frame is requested. (Yeo col. 2 lines 62-65; col. 4, lines 61-64; emphasis added.) There is no suggestion in Yeo that the temporal snapshots were obtained through a play request of any kind. Thus, the disclosure of Yeo does not teach or suggest all of the identified subject matter of claim 1. Moreover, merely assigning time stamps to specific frames (see Yeo, col. 3, lines 29-32) does not teach or suggest that Yeo involves “separate play requests” sent by a client system with a beginning and end time that “does not exceed one frame [in] duration,” as recited in claim 1.

Lastly, claim 1 has been amended to also include, “receiving user input about a location where the first navigation video strip is displayed and displaying the first navigation video strip on the display device in accordance with the user input.” Support for the subject matter being added by amendment is found in at least paragraph [0028] of Applicant’s specification.

In regard to this subject matter, which was originally found in dependent claim 14, the Office Action rejected it under 35 U.S.C. § 103(a) based on Boreczky in view of Yeo, in view of Matsui and further in view of U.S. Patent No. 6,747,674 to Asami (hereinafter, “Asami”). (Office Action, pages 11-12.)

Specifically, the Office Action stated that Asami, “teaches that the user can control number of pictures thumbnails or a scrolling index of them on a CRT.” (Id., page 12; Asami, col. 3, lines 54-64.) While Asami teaches that the number of thumbnail pictures can be changed

(Asami, col. 3, lines 54-64) it is silent as to “receiving user input about a location where the first navigation video strip is displayed and displaying the first navigation video strip on the display device in accordance with the user input” (emphasis added).

The Office Action also infers that the combination of Boreczky, Yeo, and Matsui is silent as to this subject matter. (See Office Action, page 10.) Upon closer inspection of the cited references, they are indeed silent. The Boreczky reference, while having a “User Interface for Navigation the Video” section (*Id.*, paragraphs [0046]-[0049]) does not disclose interfacing with a user to change the location of the navigational video strip, or anything regarding the location of the navigational video strip. Likewise, the Matsui reference is also completely devoid of such teaching. The Yeo reference does teach that various configurations of a navigational video strip may be displayed. (See Yeo, Fig. 6A-6B.) However, Yeo is still silent on receiving input from a user to be able to control the location of the navigational video strip. In sum, the combination of Boreczky, Yeo, Matsui, and Asami does not teach “receiving user input about a location where the first navigation video strip is displayed and displaying the first navigation video strip on the display device in accordance with the user input,” as recited by amended claim 1.

In view of the foregoing arguments, Applicant respectfully submits that claim 1 is patentably distinct from the cited references. Accordingly, Applicant respectfully requests that the rejection of claim 1 be withdrawn because Boreczky, alone or in combination with Yeo, Matsui and Asami does not teach or suggest all of the subject matter of claim 1. Claims 2-6, 8-10, 17 and 50-52 depend from claim 1, and are therefore allowable for at least the same reasons as claim 1.

Amended claim 18 recites “generating the first instructions, wherein the first instructions do not include the first plurality of video frames” and “determining whether each obtained video frame of the first plurality of video frames is an intra-coded frame or a predictive-coded frame, and for each obtained video frame that is a predictive-coded frame, discarding the obtained video frame and obtaining a subsequent intra-coded frame.” As discussed above, the combination of Boreczky, Yeo, Matsui, and Asami does not teach or suggest this claimed subject matter. Accordingly, Applicant respectfully submits that amended claim 18 is allowable. Claims 19-20

and 53 depend from claim 18, and are therefore allowable for at least the same reasons as claim 18.

Amended claim 21 recites “obtain first instructions for displaying the first navigation video strip, wherein the first instructions do not include the first plurality of video frames,” “determining whether each obtained video frame of the first plurality of video frames is an intra-coded frame or a predictive-coded frame, and for each obtained video frame that is a predictive-coded frame, discarding the obtained video frame and obtaining a subsequent intra-coded frame” and “receiving user input about a location where the first navigation video strip is displayed and displaying the first navigation video strip on the display device in accordance with the user input.” As discussed above, the combination of Boreczky, Yeo, Matsui, and Asami does not teach or suggest this claimed subject matter. Accordingly, Applicant respectfully submits that amended claim 21 is allowable. Claims 22-26, 28-30, 37 and 54 depend from claim 21, and are therefore allowable for at least the same reasons as claim 21.

Amended claim 38 recites “generat[ing] the first instructions, wherein the first instructions do not include the first plurality of video frames” and “determining whether each obtained video frame of the first plurality of video frames is an intra-coded frame or a predictive-coded frame, and for each obtained video frame that is a predictive-coded frame, discarding the obtained video frame and obtaining a subsequent intra-coded frame.” As discussed above, the combination of Boreczky, Yeo, and Matsui does not teach or suggest this claimed subject matter. Accordingly, Applicant respectfully submits that amended claim 38 is allowable. Claims 39-40 and 55 depend from claim 38, and are therefore allowable for at least the same reasons as claim 38.

Amended claim 41 recites “determining whether each obtained video frame of the first plurality of video frames is an intra-coded frame or a predictive-coded frame, and for each obtained video frame that is a predictive-coded frame, discarding the obtained video frame and obtaining a subsequent intra-coded frame.” As discussed above, the combination of Boreczky, Yeo and Matsui does not teach or suggest this claimed subject matter. Accordingly, Applicant respectfully submits that amended claim 41 is allowable for arguments stated above. Claims 42-

43, 49 and 56 depend from claim 41, and are therefore allowable for at least the same reasons as claim 41.

II. Claims 11-14, 31-34, and 44-46 Rejected Under 35 U.S.C. § 103(a)

Claims 11-14, 31-34, and 44-46 stand rejected under 35 U.S.C. § 103(a) based on Boreczky in view of Yeo in view of Matsui and further in view of U.S. Patent No. 6,747,674 to Asami (hereinafter, "Asami"). Applicant respectfully requests reconsideration in view of the above claim amendments and the following remarks.

Claims 11-13 depend from claim 1. Claims 31-33 depend from claim 21. Claims 44-45 depend from claim 41. As discussed above, Applicant respectfully submits that claims 1, 21 and 41 are allowable. Accordingly, Applicant respectfully submits that claims 11-13, 31-33 and 44-45 are allowable for at least the same reasons as presented above in connection with claims 1, 21 and 41, respectively. Claims 14, 34, and 46 have been cancelled.

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CONCLUSION

In view of the foregoing, Applicant respectfully submits that all pending claims in the present application are in a condition for allowance, which is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

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